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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
STRONCZER, RYAN S	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,043	SIE ET AL.	
	Examiner	Art Unit	
	Ryan Stronczer	2425	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 August 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 20-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 20-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03 August 2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-14, 20, 21, and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masukura et al. (Pub. No.: US 2004/0148640) and further in view of Yamauchi et al. (US Pat. No.: 5,907,659) and Addington et al. (Pub. No.: US 2004/0025181).

As to claims 1, 2, 10, and 24-26 Masukura teaches a system and associated method for processing a video program on a frame-by-frame basis in which the metadata changes temporally to reflect changes in the conversion information.

Masukura further teaches that the video program and metadata may be transmitted to a remotely located output device *"by way of a network or broadcast waves"* [0029]. Masukura et al. teaches a method for processing a video image in which the processing instructions conversion information are encoded in metadata associated with the content and that said metadata includes aspect ratio conversion information [0071]. As to the limitation that the metadata "dynamically changes," paragraphs 0053-54 of Masukura teach that *"…the processing is basically carried out frame-by-frame…the metadata may be read as needed during processing."* Further, Fig. 3 and 5 teach that the metadata associated with each frame or temporal region may specify different conversion or processing information.

Though paragraph 0071 of Masukura teaches that the *"restriction information about the relative frame is acquired (step **S71**) from the metadata…The restriction information includes the number of pixels and the aspect ratio of an apparatus that uses the output moving pictures,"* it does not explicitly teach converting from a first aspect ratio to a second aspect ratio. In an analogous art, Yamauchi teaches steps for converting a display from a first aspect ratio to a second aspect ratio. Fig. 1A-2B of Yamauchi teach converting from a first aspect ratio to a second aspect ratio. Further, Fig. 13A-C and 27A-D of Yamuchi teach that the conversion information can change from frame-to-frame (e.g., to accommodate subtitle placement). As Yamauchi teaches methods for performing aspect ratio conversion, the combination of the conversion and processing information taught by Masukura, which allows different portions of a frame to be altered differently, with the aspect ratio conversion taught by Yamauchi would have

been obvious to one of ordinary skill in the art at the time of the invention since such combination would have yielded results that would have been predictable to one of ordinary skill in the art at the time of the invention. This would have been desirable as it would have enabled a wide range of video processing functionality to be available to broadcast programming which enhance the viewer's experience.

As to the limitation that the video program be transmitted to a geographically different location, Masukura teaches, *"…the output moving picture storage unit 106 may exist in a remote place by way of a network or broadcast waves"* [0033]. One of ordinary skill in the art at the time of the invention would have recognized that as the conversion information of Masukura changes during the program, broadcasting the video program of Masukura would necessarily comprise broadcasting temporally or dynamically changing metadata in a manner cumulative with the method of claims 1 and 2.

As Yamauchi teaches converting frames of a video program from a first aspect ratio to a second aspect ratio on a frame-by-frame basis and Masukura teaches processing frames of a video program according to metadata which changes dynamically during said video program, one of ordinary skill in the art at the time of the invention would have recognized that the combined teachings of Masukura and Yamauchi, when considered as a whole, would provide dynamically changing metadata containing instructions facilitating the processing of frames of a video stream, said processing including aspect ratio conversion, as recited in the method of claims 1 and 2. However, the combination of Masukura and Yamauchi, as analyzed above does not

explicitly teach the newly-presented limitation of "integrating the video conversion information with the stream of images of the video program having the first aspect ratio to produce a combined set of video data, the combined set of video data formatted for viewing in both the first aspect ratio and in the second aspect ratio according to the conversion information." In an analogous art, Fig. 2 of Addington teaches a video distribution system comprising Multiplexor and Scheduling Processor 280, which combines live broadcast content and metadata into a single transport stream that is broadcast to the viewer [0037]. As the processing and aspect ratio conversion information taught by Masukura and Yamauchi is equivalent to the metadata taught by Addington and further in light of Masukura's teaching that said metadata may be stored remotely from the user and transmitted through a network or broadcast waves, it would have been obvious to one of ordinary skill in the art at the time of the invention that the distribution system taught by Addington which multiplexes video information and metadata into a single transport stream could be utilized to distribute the video processing and aspect ratio conversion metadata taught by Masukura and Yamauchi. One of ordinary skill in the art would have recognized this as a combination of known elements in the art that would have yielded predictable results. One of ordinary skill in the art at the time of the invention would have recognized that this would have been advantageous as it allows for the video content and metadata to be broadcast on one channel thus increasing the efficiency of the system.

Addington further teaches that the multiplexed transport stream is then delivered to a receiver 20 which forwards said transport stream containing both video content and

metadata to a set top box 270. The set top box 270 is equivalent to the recited "receiving display device at a second location."

As to the distribution system recited in claim 10, Masukura teaches that the both the input and output moving-picture and metadata storage units may exist *"in a remote place by way of a network or broadcast waves"* [0029, 0033]. As to the recited distribution point, Masukura teaches that *"...a video camera or a broadcast wave tuner may be used as the input moving-picture storage unit"* [0027] which is equivalent to the recited distribution point. Examiner maintains that broadcasting the video program of Masukura would inherently comprise temporally or dynamically changing metadata in a manner cumulative with the system of claim 10.

As to the limitations recited in claims 24 and 25 regarding a first and second subset of the stream of images, the temporal regions taught by Masukura are equivalent to the recited subsets. Fig. 5 teaches that the metadata may contain different conversion or manipulation data for each temporal region.

As to claim 3, Masukura teaches that the metadata can be adapted to adjust for the aspect ratios of various display devices [0071] which is consistent with the recited "plurality of recited target aspect ratios."

As to claim 4, Fig. 1B-2B of Yamauchi teaches the recited shrinking.

As to claims 5 and 23, paragraph 0071 of Masukura teaches:

*restriction information about the relative frame is acquired (step **S71**) from the metadata. The restriction information is information to limit the position of the cutout*

region. The restriction information includes the number of pixels and the aspect ratio of an apparatus that uses the output moving pictures.

Using the restriction information to limit the position of a cutout region is equivalent to the limitation recited in claim 5 that "the video conversion information specifies a portion of the video program to display as the second aspect ratio."

As to claim 6, Fig. 4-8 of Masukura teach that different areas of the image can be scaled differently as recited; further, Masukura teaches that the height or width of the image may be scaled differently to accommodate the aspect ratio of the display device [0082].

As to claims 7, 8, and 21, the recited “rotating or mirroring” and “plurality of discreet portions” is taught by Fig. 4 and 6 of Masukura as applied to claim 6. The shaded areas of Fig .4 and 6 are equivalent to the recited “plurality of discreet portions,” and their manipulation (movement, rotation, etc.) evident in the difference between the two figures is equivalent to the recited “rotating or mirroring” and “different transformations for different portions.”

As to claim 9, the recited computer-readable medium and computer-executable instructions are inherent in a system capable of receiving and processing digital video, such as that taught by Masukura.

As to claim 11, Fig .1 of Masukura teaches an output video display coupled to a processed video generator.

As to claims 12 and 13, paragraphs 0053-54 of Masukura (cited above) teach that the processing information is read from the metadata on a frame-by-frame basis, or

as needed by the video processor; it is inherent that this would allow the video processor to change conversion to a third aspect ratio mid-stream if such change were indicated by the metadata.

As to claim 14, Fig. 4 and 6 of Masukura teach the recited "first and second cutout" and Fig. 1 teaches that the cutout-processing instructions are contained within the metadata.

As to claim 20, Yamauchi teaches a method which includes converting a video image from a first aspect ratio to a second aspect ratio. In Fig. 1B, an image originally in a 16:9 aspect ratio is converted into a 4:3 aspect ratio. The dashed lines overlaid on the 16:9 image in Fig. 1 would be the equivalent of aperture 1012 shown in Fig. 10 of the instant application. Fig. 1B of Yamauchi further teaches that only the portion of the 16:9 image corresponding with the overlay is displayed in the converted 4:3 image. Conversely, Fig. 1C of Yamauchi teaches a method for converting from an original 4:3 aspect ratio to a 16:9 aspect ratio. Further, the shaded areas of Fig .4 and 6 of Masukura would be equivalent to the recited apertures or cutouts and movement and teach the recited "manipulations," as analyzed w/r/t claims 7 and 8.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masukura in view of Addington and Yamauchi as applied to claims 1 and 10 above, and further in view of Duffield et al. (US Pat. No.: 5,461,427, previously cited).

As analyzed above, Yamauchi in view of Masukura teaches the method of claim 1 including the use of metadata to facilitate conversion from a first aspect ratio to a

second aspect ratio, but does not explicitly teach the use of one or more video streams of the program. Duffield teaches that the same program may be simultaneously broadcast (simulcast) in both NTSC and HDTV standards so to accommodate viewers with NTSC-compatible televisions as well as users with HDTV sets. Duffield teaches that such simulcasting is necessary to service users of both standards because, *"the HDTV system uses a 16:9 aspect ratio while the NTSC system has a 4:3 aspect ratio, the HDTV system will have 1125 television scan lines while the NTSC system has only 525"* (Col. 1). Duffield further teaches a receiver which can receive and process both NTSC and HDTV signals and, *"includes a controller responsive to user input for associating a single label with a pair of television channels, one being an NTSC-signal carrying channel, and the other being an HDTV-signal carrying channel"* (Col. 2). Figs. 2a and 2b of Duffield show the same program displayed in both the 16:9 and 4:3 aspect ratios, respectively. As simulcasting the same video program in multiple formats to accommodate viewers with different display types was known in the art of video distribution, it would have been obvious to one of ordinary skill at the time of the invention to stream or broadcast the same program in multiple aspect ratios or display formats to allow users with different display capabilities to enjoy the same program. Since Duffield's disclosure was published in 1995, it does not explicitly refer to embodying video programs in a "content stream," but transmitting a video program in a content stream is an application of existing technologies that would have been obvious to one of ordinary skill in the art at the time of the invention.

Response to Arguments

Applicant's arguments with respect to claims 1, 10, and 24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lude et al. (Pub. No.: 2002/0184642) discloses a similar system to that of Addington wherein supplemental data is combined with a video program into a single stream prior to being transmitted to the user.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Stronczer whose telephone number is (571) 270-3756. The examiner can normally be reached on 7:30 AM - 5:00 PM (EDT), Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian T. Pendleton can be reached on (571) 272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ryan Stronczer/
Examiner, Art Unit 2425

/Brian T. Pendleton/
Supervisory Patent Examiner, Art Unit 2425